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BY: Marlene Capser DATE: DECEMBER 22, 2003

PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re:	Patent Application of Claudia Panzer, <i>et al.</i>	: Group Art Unit: 1617 : : :
Appln. No.:	09/830,918	: Examiner: Shaojia A. Jiang, Ph.D. : :
Filed:	August 13, 2001	: Confirmation No.: 5279 : :
For:	ALCOHOL-COMPATIBLE CHITOSAN SALTS AND COSMETIC PREP- ARATIONS CONTAINING THE SAME	: Attorney Docket : No.: H 3630 PCT/US :

**APPELLANTS' REPLY BRIEF UNDER 37 C.F.R. §1.193(b)**

In response to the Examiner's Answer, dated October 21, 2003 (Paper No. 15), Appellants submit herewith a Reply Brief under 37 C.F.R. §1.193(b). This Reply Brief is being timely filed on or before December 22, 2003 (December 21, 2003 being a Sunday).

Appellants respectfully request that the Board of Patent Appeals and Interferences, before making its decision on this appeal, consider the following rebuttals to statements made in the Examiner's Answer, as set forth below in detail.

## REMARKS

Appellants respectfully disagree with all of the Examiner's arguments and contentions advanced in Paper No. 15, for at least those reasons originally set forth in Appellants' Brief on Appeal. In this Reply Brief, Appellants highlight for the Honorable Board several specific items from Paper No. 15 which Appellants feel are most errant. Appellants specifically traverse each of the following statements and arguments made by the Examiner in Paper No. 15, and offer the following rebuttal arguments in support of said traversal:

### Examiner's Statement #1:

"Appellant's [*sic*] argument in respect to the cited references, i.e., Wachter et al. 'hardly qualifies as teaching neutralization of products of chitosan and carboxylic acids', Yu's teachings 'not a salt and not a neutralization product' have been fully considered but are not deemed persuasive as to the nonobviousness of the claimed invention over the prior art, since it is well-known in general chemistry, a base such as chitosan . . . will automatically react with or be neutralized by an acid such as acids taught in the cited prior art to form a chitosan salt . . . . Hence, a chitosan salt - a neutralization product is inherently present in the compositions of Wachter et al. and Yu et al." (See, Paper No. 15, p. 6 (*citations omitted*)).

### Rebuttal:

Appellants respectfully submit that the Examiner is incorrect to argue that a chitosan salt is inherently present in Wachter and Yu, and that the Examiner has failed to fully appreciate Appellants' arguments with respect to these two references.

First, Appellants' statement in the Brief on Appeal that, "[Wachter's disclosure] hardly qualifies as teaching neutralization products of chitosans and carboxylic acids, . . .", was preceded by a statement noting that the only reference in Wachter to acids is a mention that among the many auxiliary surfactants that may be included in the compositions taught therein are

“ether carboxylic acids and salts thereof.” (*See*, Appellants’ Brief on Appeal, p. 7, *citing* Wachter, col. 4, line 61). Nothing in Wachter indicates that carboxylic acids should be used in quantities such that the chitosan used is in fact neutralized. The Examiner states in the Examiner’s Answer, that it is well known in general chemistry that a base and an acid automatically react with each other to form a neutralization product. This is true to the extent that the reaction is kinetically favored (*i.e.*, that the concentrations of each reactant are sufficient). However, where the amount of acid and the amount of base are unequal, the resulting product is NOT neutral, but rather is still basic or acidic, depending upon which reactant was present in excess. Moreover, nothing in Wachter teaches or suggests the use of the claimed acids.

Second, Appellants’ stated in the Brief on Appeal that Yu does not teach a chitosan salt or a neutralization product. The only reference in Yu to a composition containing both a carboxylic acid and a chitosan is set forth in Example 2, where chitosan OR a polyquat is added. The chitosan OR polyquat is added in an amount of 0.03 grams to a composition containing 5 grams of carboxylic acid. Again the resulting product is not neutral.

Examiner’s Statement #2:

“... Keil discloses that ethanol (*i.e.*, 40-50%) or isopropanol employed in water-alcoholic media therein in which the total amounts of ethanol or isopropanol and water in the compositions is more than 90% (see Example 1, 2 and 5). One of ordinary skill in the art would clearly acknowledge that ethanol or isopropanol are water-like solvent, being miscible with water. Replacing some of water with ethanol or isopropanol is considered be conventional in the art.”

(*See*, Paper No. 15, p. 7).

Rebuttal:

There is no teaching in Kiel which suggests that the amounts of ethanol and/or isopropanol should be increased beyond that which is taught, nor is there any indication that water ought to be removed in favor of ethanol and/or propanol. It is true that ethanol and isopropanol are miscible with water. However, this fact does not equate to an automatic knowledge among those of ordinary skill in the art that where ethanol and water are used in a formulation, that the amount of ethanol *should be* increased in favor of water being removed.

Whether water could be replaced with ethanol or isopropanol is not important, as the requirement for *prima facie* obviousness is that the prior art contain a teaching or suggestion which motivates the modification of the prior art to arrive at the claimed invention. There is no such teaching or suggestion in the fact that water and ethanol are miscible.

Examiner's Statement #3:

“It is noted that the result on the test of a single composition comprising chitosan glycolate which is not within the instant claimed neutralization product of the particular acid and chitosan since glycolate is not the instant particular acid in the claim. Thus, this result does not represent the instant claimed invention. Even so, the evidence in a single example is not commensurate in scope with the claimed invention and does not demonstrate criticality . . .”

(See, Paper No. 15, pages 7-8 (*citations omitted*)).

Rebuttal:

First, Appellants respectfully note that the Examples cited in Appellants' Brief on Appeal, which Examples are contained in Appellants' Specification, present a comparison of nine (9) different chitosan salts, not a “single composition”, as alleged by the Examiner. Second, Appellants respectfully submit that the reference to chitosan glycolate is for comparative purposes, as are the references to chitosan aspartate, chitosan glutamate and chitosan azelate.

These four chitosan salts are compared to the claimed chitosan salts to evidence the increased ethanol compatibility of the claimed chitosan salts.

The evidence set forth in Appellants' Specification shows the significantly better ethanol compatibility of the claimed chitosan salts, and as set forth in Appellants' Brief on Appeal, this improvement is unexpected.

### CONCLUSION

Appellants respectfully request that the Honorable Board consider the rebuttals presented above, and find for Appellants, reversing the Examiner's final rejection.

Respectfully submitted,

**CLAUDIA PANZER, et al.**

December 22, 2003  
(Date)

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